

Work Order ID 128738

128738

Page 1

Friday, January 23, 2015 8:55:06 AM

Item ID: D412-698-041 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Hinge Panel Automatic Door Opener LH Aluminum Door
 Start Date: 1/26/15 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 1/30/15 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan:  Date: 15-1-23 Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI 9548	C								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPPD412-698-041 CHG001								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00							
Quality Control									

ML5 15-02-09

DAS
46
9-89

FEB 09 2015

(IX)

DAS
06 FEB 09 2015
9-89

DAS
46
9-89

FEB 09 2015

(IX)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Work Order ID 128738

128738

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Friday, January 23, 2015 8:55:06 AM

Item ID: D412-698-041

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Hinge Panel Automatic Door Opener LH Aluminum Door

Start Date: 1/26/15 Start Qty: 1.00 *1*

Cust Item ID:

Required Date: 1/30/15 Req'd Qty: 1.00 *1*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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130

Pick Kit

0.00

130

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D412-698-041

Location: 022

PPP rev: _____

DAS

46

9-89

FEB 09 2015

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

MLJ 1502-11

MF

15-2-10

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Handling/Pre									
Material									
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Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 23, 2015 8:55:10 AM

Page 1

Work Order ID: 128738

128738

Parent Item: D412-698-041

D412-698-041

Parent Item Name: Hinge Panel Automatic Door Opener LH Aluminum Door

Start Date: 1/26/15

Required Date: 1/30/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 11.08.18 new issue DD verf:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued DAS	Status
D3552-21 *D3552-21* Door Prop	DAS 46 9-89	Manufactured	No			110	Each	2.0000	1	1		06 9-89	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST364		2						DAS 06 9-89	
D3622-1 *D3622-1* Ball Stud	DAS 46 9-89	Manufactured	No			110	Each	28.0000	1	1		06 9-89	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST052		28						DAS 06 9-89	
D4330-041 *D4330-041* Airframe Bracket Assembly, LH	DAS 46 9-89	Manufactured	No			110	Each	3.0000	1	1		06 9-89	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST230B		3						DAS 06 9-89	
D4330-3 *D4330-3* Door Bracket	DAS 46 9-89	Manufactured	No			110	Each	5.0000	1	1		06 9-89	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST102		5						DAS 06 9-89	

FEB 09 2015

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



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Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube ☐</td> <td style="width: 25%;">Crosstube ☐</td> <td style="width: 25%;">Water Jet ☐</td> <td style="width: 25%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Material									
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Offset/Setup									
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Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge	☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Friday, January 23, 2015 8:55:10 AM

Work Order ID: 128738

128738

Parent Item: D412-698-041

D412-698-041

Parent Item Name: Hinge Panel Automatic Door Opener LH Aluminum Door

Start Date: 1/26/15

Required Date: 1/30/15

Start Qty: 1.00

Required Qty: 1.00

MS21042L5 Purchased No

110 Each 996.0000 0 1

MS21042L5

DAS

Nut

DAS
46
9-89

Location

Loc Qty

Loc Code

GA	496	
m127813	496	
ST305	500	
m130358	4	
m131340	496	

DAS
46
9-89

NAS1149D0563J Purchased No

110 Each 1,900.000 0 1

NAS1149D0563J

Washer

DAS
46
9-89

Location

Loc Qty

Loc Code

GA	130	
m125807	130	
ST260a	400	
m130799	400	
ST269	370	
16527	4	
m128257	366	
ST271	1000	
m131026	1000	

DAS
46
9-89

FEB 09 2015

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Supplier									
Training									
Transport									
Unapproved									

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		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS
IIN-D412-698 REV. E OR LATER APPROVED REVISION

REF. TCCA STC: SH92-43
REF. FAA STC: SR01446NY
REF. EASA STC: EASA.IM.R.S.00709
REF. BRASIL STC: 2010S10-09

1.0 PURPOSE:

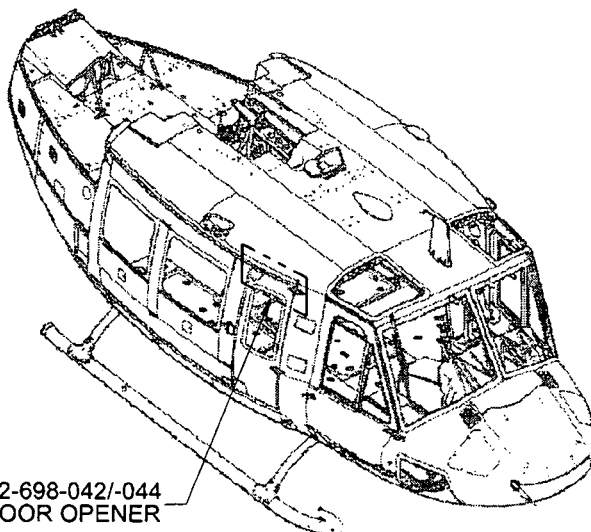
The purpose of this DSI is to add the optional automatic door opener kit for both the OEM aluminum (Bell P/N 205-031-423-005/-157/-006/-158), OEM composite (Bell P/N 412-030-029-101/-102), and Dart Spacedoor™ (Dart P/N D412-694-03/-04) hinge panel doors.

2.0 DESCRIPTION:

The Dart D412-698-XXX Hinge Panel Automatic Door Opener Kit permits the installation of a gas spring between the hinge panel doors (or "quarter" doors) and the cabin ceiling to prevent the doors from closing while the occupants enter or exit the aircraft.

The **D412-698-041 Hinge Panel Automatic Door Opener Kit** installs on the LH side of the aircraft and the **D412-698-042 Hinge Panel Automatic Door Opener Kit** installs on the RH side of the aircraft. These kits are designed to mount onto the OEM aluminum door (Bell P/N 205-031-423-005/-157/-006/-158).

The **D412-698-043 Hinge Panel Automatic Door Opener Kit** installs on the LH side of the aircraft and the **D412-698-044 Hinge Panel Automatic Door Opener Kit** installs on the RH side of the aircraft. These kits are designed to mount onto the OEM composite (Bell P/N 412-030-029-101/-102) and Dart Spacedoor™ (Dart P/N D412-694-03/-04).



LOCATION OF D412-698-042/-044
AUTOMATIC DOOR OPENER

FIGURE 1: LOCATION OF HINGE PANEL AUTOMATIC DOOR OPENER KITS

(RH Installation Shown, LH Opposite)

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 12.08.30
CERT. NO.: SH92-43
ISSUE NO.: 5

C	D412-698-043/-044 NOW COMPATIBLE FOR INSTALLATION ON OEM COMPOSITE DOORS	MB	12.08.29
B	ADDED NOTE TO TRIM EXISTING TRIM/CEILING PANELS: ITEMS 11/12 OF SECTIONS 3.0/4.0 (SHT 2/4); UPDATED FIGURE 3 ACCORDINGLY. REF: PAR11-150.	MB	12.01.17
A	NEW ISSUE	DC	11.04.26
REV.	DESCRIPTION	BY	DATE
DESIGN	BC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED	A.P.	DRAWING NO.	REV. C
MFG. APPR.	N/A	DSI 9548	SHEET 1 OF 9
APPROVED		TITLE	SCALE
DE APPR.		HINGE DOOR OPENER KIT	NTS
DATE	12.08.29	COPYRIGHT © 2011 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

3.0 INSTALLATION OF D412-698-041/-042 HINGE PANEL AUTOMATIC DOOR OPENER (OEM ALUMINUM DOOR):

NOTE: The following instructions are for a typical RH side installation. For installation on the LH side, substitute D4330-041 for D4330-042.

1. Remove any ceiling or trim panels located on the RH forward cabin ceiling. Remove existing door spring Bell p/n 205-030-303-101 and associated hardware.
2. Using Figures 2 and 3 and dimensions shown as reference, locate D4330-042 Airframe Bracket Assembly, RH on the intersection of the existing aircraft rivet lines. The angled part of D4330-042 Airframe Bracket Assembly, RH is required to pick up on a minimum of 3 rivets. The bracket may be hand formed as necessary to improve fit with the contoured ceiling.
3. Mark the location of D4330-3 Door Bracket on the Hinge Panel Door as shown in Figure 4.
4. Verify that the D3552-21 Gas Spring will close properly (0.25" travel before it is fully retracted) when the door is closed. Adjust the position of the D4330-042 Airframe Bracket Assembly, RH if required to maintain rivet edge distance.
5. Verify that the D3552-21 Gas Spring will open the door to the desired position. Ensure the Gas Spring does not interfere with the door or airframe. Adjust location of D4330-3 Door Bracket if required.
NOTE: When the door is fully open, it should be approximately perpendicular to the aircraft.
6. Remove the 205-031-423-005/-157/-006/-158 aluminum door from the aircraft per the Aircraft Maintenance Manual.
7. Remove any existing rivets where the D4330-042 Airframe Bracket Assembly, RH and D4330-3 Door Bracket will be installed.
8. Locate D4330-042 Airframe Bracket Assembly, RH on the aircraft ceiling per Figure 3. Transfer drill #30 ($\phi 0.129"$) holes from the ceiling to D4330-042. Deburr holes.
9. Locate D4330-3 Door Bracket on the hinge panel door per Figure 4. Using Figure 5 as a guide for the approximate locations of the mounting holes, transfer drill 3x #30 ($\phi 0.129"$) holes from the door skin to D4330-3 and drill 2x additional holes at locations shown in Figure 5. Deburr holes.
10. Apply a thin layer of Proseal 890 (or equivalent) to faying surface of the D4330-042/-3 brackets. Install the D4330-042 Airframe Bracket Assembly, RH using CR3213-4 rivets as shown in Figure 3. Install D4330-3 Door Bracket using CR3213-4 rivets as shown in Figure 4.
11. Pre-install the ceiling or trim panels that were removed in Step 1 and transfer mark contour of D4330-041 or -042 as shown in Figure 3 (SHT 6). Remove ceiling or trim panels and perform cutout to clear D4330-041 or -042. Touch-up finish of ceiling or trim panels cutout area in accordance with aircraft maintenance manual and re-install any ceiling or trim panels.
12. Install a D3622-1 Ball Stud on the D4330-3 Door Bracket using hardware specified in Figure 4.
13. Re-install modified door on aircraft per Aircraft Maintenance Manual.
14. Install D3552-21 Gas Spring onto the D3622-1 Ball Studs per Figure 2.
15. Verify proper gas spring and door operation.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 12.08.30
CERT. NO.: SH92-43
ISSUE NO.: 5

DESIGN	DC	DART AEROSPACE LTD	
DRAWN	B	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. C
MFG. APPR.	N/A	DSI 9548	SHEET 2 OF 9
APPROVED		TITLE	SCALE
DE APPR.		HINGE DOOR OPENER KIT	NTS
DATE	12.08.29	COPYRIGHT © 2011 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED, OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

4.0 INSTALLATION OF D412-698-043/-044 HINGE PANEL AUTOMATIC DOOR OPENER (OEM COMPOSITE):

NOTE: The following instructions are for a typical RH side installation. For installation on the LH side, substitute D4330-041 for D4330-042.

1. Remove any ceiling or trim panels located on the RH forward cabin ceiling. Remove existing door spring Bell p/n 205-030-303-101 and associated hardware.
2. Using Figures 2 and 3 and dimensions shown as reference, locate D4330-042 Airframe Bracket Assembly, RH on the intersection of the existing aircraft rivet lines. The angled part of D4330-042 Airframe Bracket Assembly, RH is required to pick up on a minimum of 3 rivets. The bracket may be hand formed as necessary to improve fit with the contoured ceiling.
3. Mark the location of D4330-3 Door Bracket on the hinge panel door as shown in Figure 6.
4. Verify that the D3552-21 Gas Spring will close properly (0.25" travel before it is fully retracted) when the door is closed. Adjust the position of the D4330-042 Airframe Bracket Assembly, RH if required to maintain rivet edge distance.
5. Verify that the D3552-21 Gas Spring will open the door to the desired position. Ensure the Gas Spring does not interfere with the door or airframe. Adjust location of D4330-3 Door Bracket if required.
NOTE: When the door is fully open, it should be approximately perpendicular to the aircraft.
6. Remove the 412-030-029-101/-102 composite door from the aircraft per the Aircraft Maintenance Manual.
7. Remove any existing rivets, if any, where the D4330-042 Airframe Bracket Assembly, RH will be installed.
8. Locate D4330-042 Airframe Bracket Assembly, RH on the aircraft ceiling per Figure 3. Transfer drill #30 ($\varnothing 0.129$ ") holes from the ceiling to D4330-042. Deburr holes.
9. Locate D4330-3 Door Bracket on the hinge panel door per Figure 6. Using Figure 7 as a guide for the approximate locations of the mounting holes, drill 3x #7 ($\varnothing 0.201$ ") holes in D4330-3 and the inner door skin. Enlarge holes in hinge panel door inner skin to 9/16" ($\varnothing 0.5625$ ").
10. Install the 3x 80-005-2-8 inserts per Paragraph 3.2.12 of the BHT-MED-SRM at the locations drilled in Step 9 in the hinge panel door using Hysol EA934NA.
11. Apply a thin layer of Proseal 890 (or equivalent) to faying surface of the D4330-042/-3 brackets. Install the D4330-042 Airframe Bracket Assembly, RH using CR3213-4 rivets as shown in Figure 3. Install D4330-3 Door Bracket using hardware as shown in Figure 6.
12. Pre-install the ceiling or trim panels that were removed in Step 1 and transfer mark contour of D4330-041 or -042 as shown in Figure 3 (SHT 6). Remove ceiling or trim panels and perform cutout to clear D4330-041 or -042. Touch-up finish of ceiling or trim panels cutout area in accordance with aircraft maintenance manual and re-install any ceiling or trim panels.
13. Install a D3622-1 Ball Stud on the D4330-3 Door Bracket using hardware specified in Figure 6.
14. Re-install modified door on aircraft per Aircraft Maintenance Manual.
15. Install D3552-21 Gas Spring onto the D3622-1 Ball Studs per Figure 2.
16. Verify proper gas spring and door operation.

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ISSUE NO.:	5

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MFG. APPR.	N/A	DSI 9548	SHEET 3 OF 9
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5.0 INSTALLATION OF D412-698-043/-044 HINGE PANEL AUTOMATIC DOOR OPENER (DART SPACEDOORS™):

NOTE: The following instructions are for a typical RH side installation. For installation on the LH side, substitute D4330-041 for D4330-042.

1. Remove any ceiling or trim panels located on the RH forward cabin ceiling. Remove existing door spring Dart p/n D3113-1 and associated hardware.
2. Using Figures 2 and 3 and dimensions shown as reference, locate D4330-042 Airframe Bracket Assembly, RH on the intersection of the existing aircraft rivet lines. The angled part of D4330-042 Airframe Bracket Assembly, RH is required to pick up on a minimum of 3 rivets. The bracket may be hand formed as necessary to improve fit with the contoured ceiling.
3. Mark the location of D4330-3 Door Bracket on the Spacedoor™ as shown in Figure 6.
4. Verify that the D3552-21 Gas Spring will close properly (0.25" travel before it is fully retracted) when the door is closed. Adjust the position of the D4330-042 Airframe Bracket Assembly, RH if required to maintain rivet edge distance.
5. Verify that the D3552-21 Gas Spring will open the door to the desired position. Ensure the Gas Spring does not interfere with the door or airframe. Adjust location of D4330-3 Door Bracket if required.
NOTE: When the door is fully open, it should be approximately perpendicular to the aircraft.
6. Remove the D412-694-03/-04 Door Assembly from the aircraft per ICA-D412-694 Section 52.1.
7. Remove any existing rivets where the D4330-042 Airframe Bracket Assembly, RH will be installed.
8. Locate D4330-042 Airframe Bracket Assembly, RH on the aircraft ceiling per Figure 3. Transfer drill #30 ($\phi 0.129$ ") holes from the ceiling to D4330-042. Deburr holes.
9. Locate D4330-3 Door Bracket on the Spacedoor™ per Figure 6. Using Figure 7 as a guide for the approximate locations of the mounting holes, drill 3x #7 ($\phi 0.201$ ") holes in D4330-3 and the inner door skin. Enlarge holes in Spacedoor™ inner skin to 9/16" ($\phi 0.5625$ ").
10. Install the 3x 80-005-2-8 inserts per Paragraph 3.2.12 of the BHT-MED-SRM at the locations drilled in Step 9 in the Spacedoor™ using Hysol EA934NA.
11. Apply a thin layer of Proseal 890 (or equivalent) to faying surface of the D4330-042/-3 brackets. Install the D4330-042 Airframe Bracket Assembly, RH using CR3213-4 rivets as shown in Figure 3. Install D4330-3 Door Bracket using hardware as shown in Figure 6.
12. Pre-install the ceiling or trim panels that were removed in Step 1 and transfer mark contour of D4330-041 or -042 as shown in Figure 3 (SHT 6). Remove ceiling or trim panels and perform cutout to clear D4330-041 or -042. Touch-up finish of ceiling or trim panels cutout area in accordance with aircraft maintenance manual and re-install any ceiling or trim panels.
13. Install a D3622-1 Ball Stud on the D4330-3 Door Bracket using hardware specified in Figure 6.
14. Re-install modified door on aircraft per ICA-D412-694 Section 52.2.
15. Install D3552-21 Gas Spring onto the D3622-1 Ball Studs per Figure 2.
16. Verify proper gas spring and door operation.

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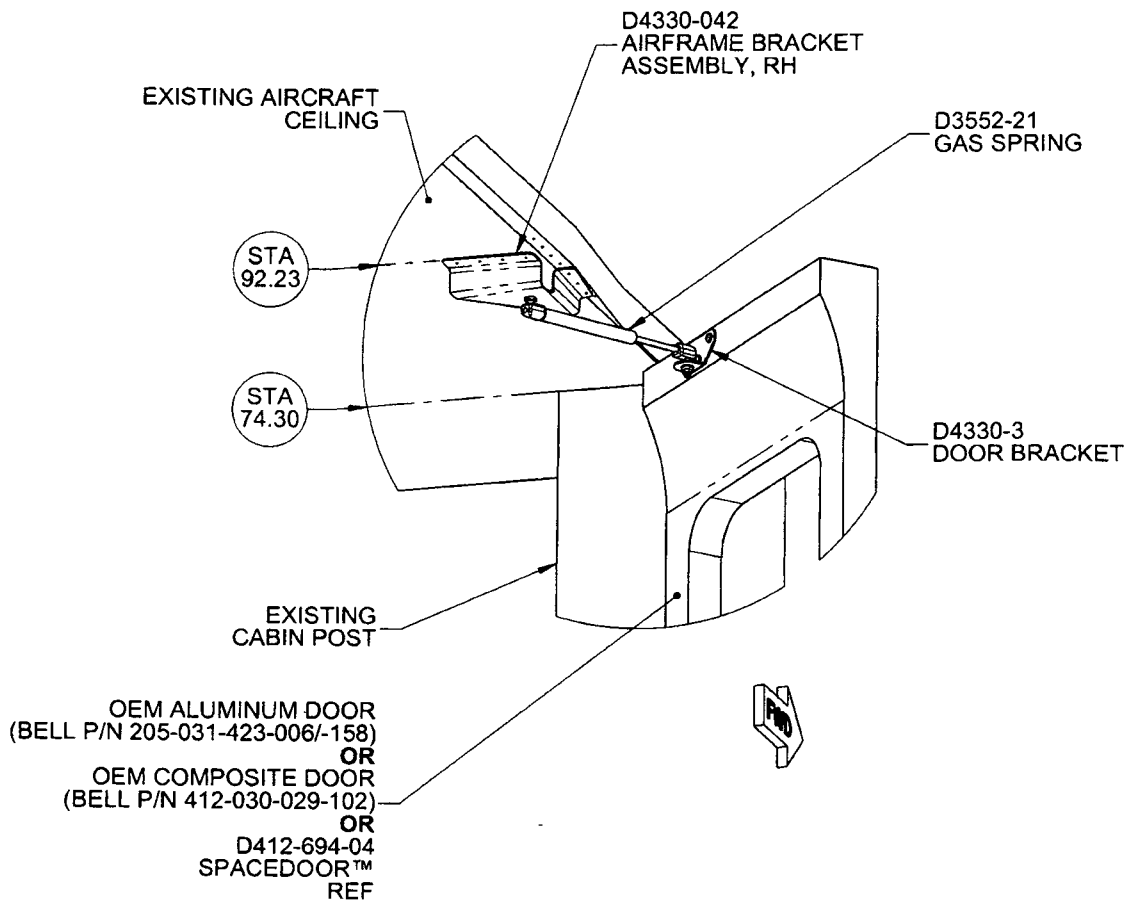


FIGURE 2: INSTALLATION DETAIL
(RH Installation Shown, LH Opposite)

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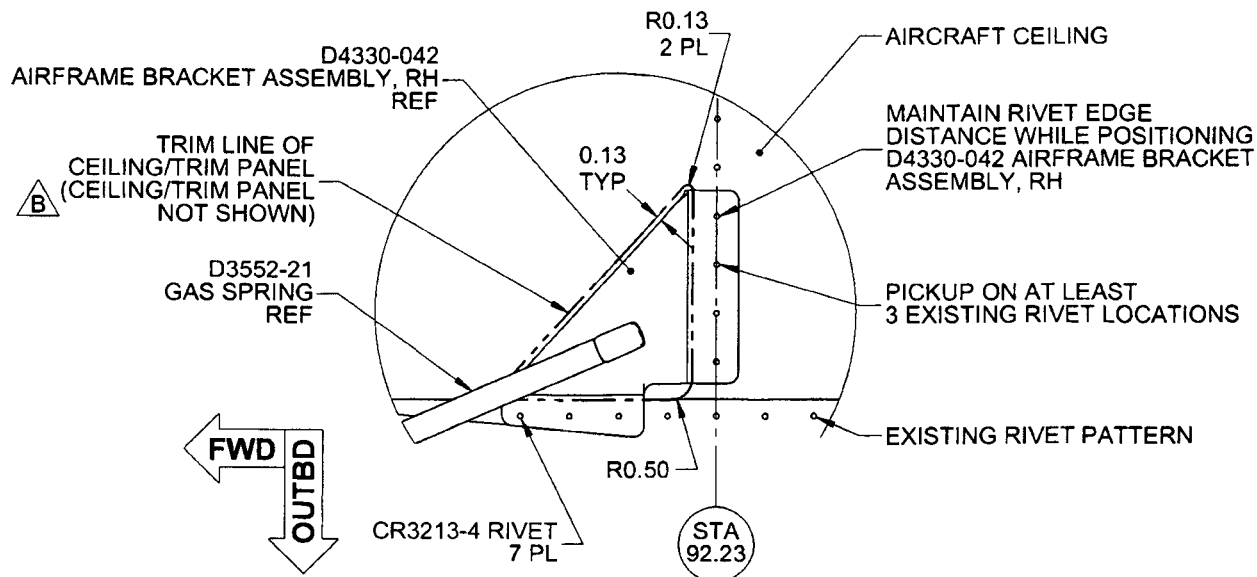


FIGURE 3: LOCATION OF D4330-042 AIRFRAME BRACKET ASSEMBLY
(RH Shown, LH Opposite)

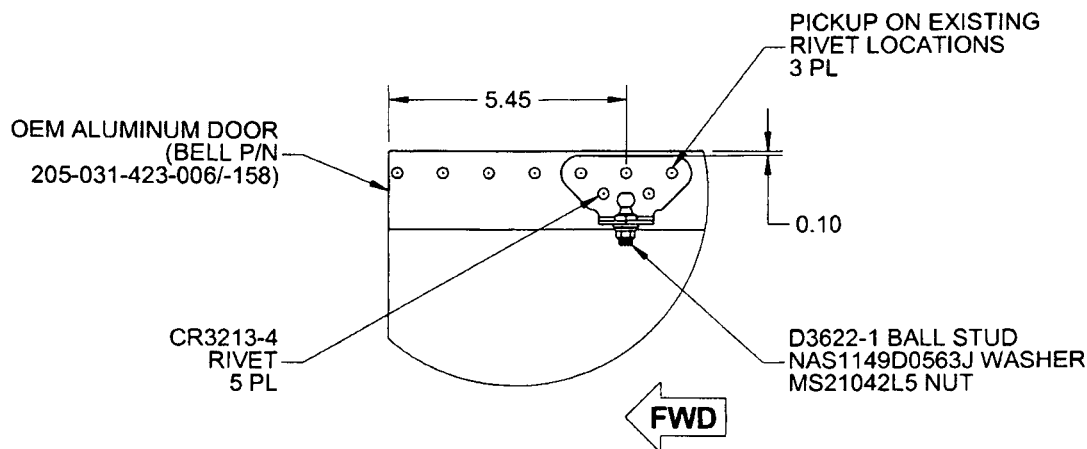


FIGURE 4: LOCATION OF D4330-3 DOOR BRACKET
(OEM ALUMINUM DOOR)
(RH Shown, LH Opposite)

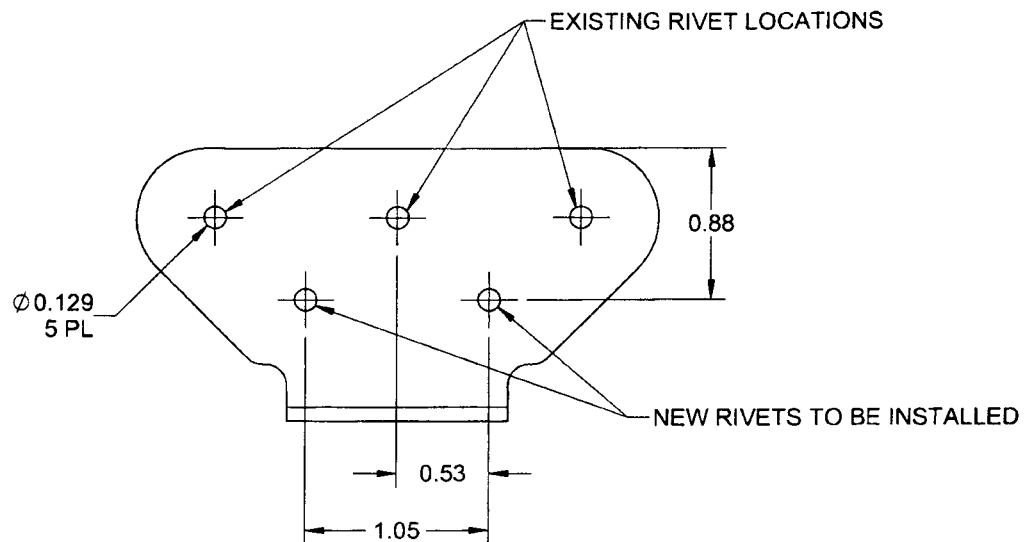
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**FIGURE 5: LOCATION OF D4330-3 DOOR BRACKET MOUNTING HOLES
(OEM ALUMINUM DOOR)**

(NOTE: MAINTAIN MINIMUM EDGE DISTANCE OF 0.25" FROM HOLE CENTER)

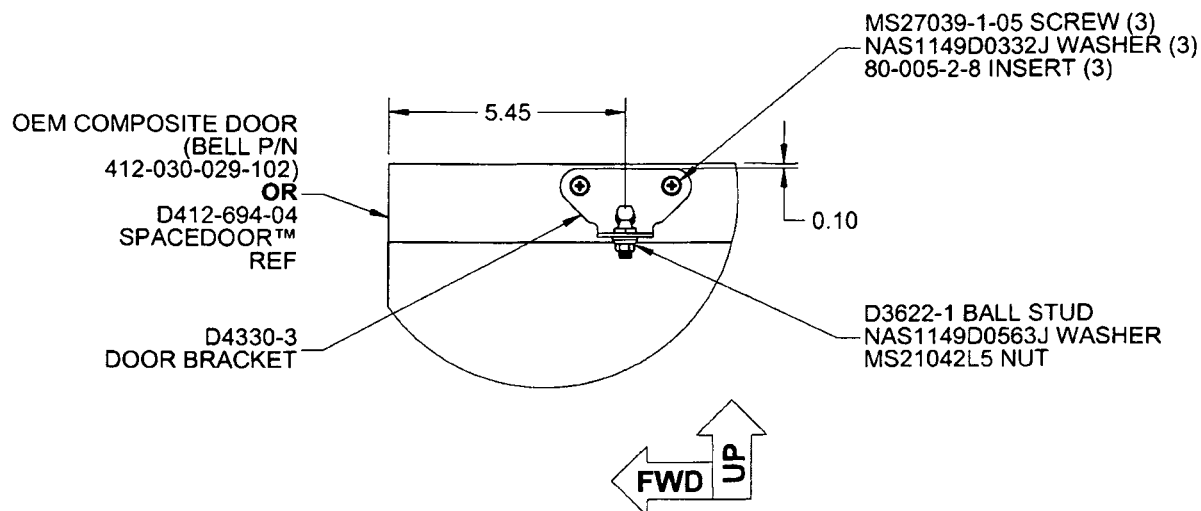
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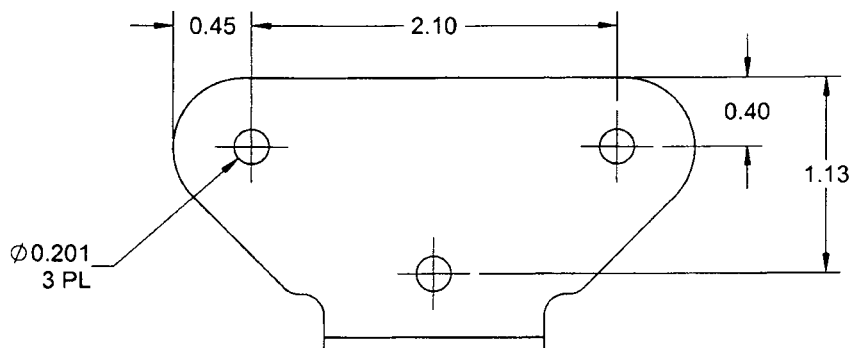
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**FIGURE 6: LOCATION OF D4330-3 DOOR BRACKET
(OEM COMPOSITE DOOR AND DART SPACEDOOR™)**
(RH Shown, LH Opposite)



**FIGURE 7: LOCATION OF D4330-3 DOOR BRACKET MOUNTING HOLES
(OEM COMPOSITE DOOR AND DART SPACEDOOR™)**

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5.0 WEIGHT & BALANCE:

INSTALLATION	WEIGHT	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D412-698-041 LH (Aluminum door)	0.23 lb 0.10 kg	-43.63 in -1.11 m	-10.03 in-lb -0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg
D412-698-042 RH (Aluminum door)	0.23 lb 0.10 kg	43.63 in 1.11 m	10.03 in-lb 0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg
D412-698-043 LH (Composite door)	0.23 lb 0.10 kg	-43.63 in -1.11 m	-10.03 in-lb -0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg
D412-698-044 RH (Composite door)	0.23 lb 0.10 kg	43.63 in 1.11 m	10.03 in-lb 0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg
D412-698-043 LH (Spacedoor™)	0.23 lb 0.10 kg	-43.63 in -1.11 m	-10.03 in-lb -0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg
D412-698-044 RH (Spacedoor™)	0.23 lb 0.10 kg	43.63 in 1.11 m	10.03 in-lb 0.11 m-kg	86.27 in 2.19 m	19.84 in-lb 0.22 m-kg

6.0 PARTS LIST:

Qty -041	Qty -042	Qty -043	Qty -044	Part Number	Description
X				D412-698-041	HINGE PANEL AUTOMATIC DOOR OPENER KIT, LH (FOR OEM ALUMINUM DOOR)
	X			D412-698-042	HINGE PANEL AUTOMATIC DOOR OPENER KIT, RH (FOR OEM ALUMINUM DOOR)
		X		D412-698-043	HINGE PANEL AUTOMATIC DOOR OPENER KIT, LH (FOR OEM COMPOSITE DOOR AND DART SPACEDOOR™)
			X	D412-698-044	HINGE PANEL AUTOMATIC DOOR OPENER KIT, RH (FOR OEM COMPOSITE DOOR AND DART SPACEDOOR™)
1	1	1	1	D3552-21	GAS SPRING
1	1	1	1	D3622-1	BALL STUD
1		1		D4330-041	AIRFRAME BRACKET ASSEMBLY, LH
	1		1	D4330-042	AIRFRAME BRACKET ASSEMBLY, RH
1	1	1	1	D4330-3	DOOR BRACKET
		3	3	80-005-2-8	INSERT
1	1	1	1	MS21042L5	NUT
		3	3	MS27039-1-05	SCREW
		3	3	NAS1149D0332J	WASHER
1	1	1	1	NAS1149D0563J	WASHER

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